

METHOD, SYSTEM AND COMMUNICATION TERMINAL FOR UTILISING A  
MULTIMEDIA MESSAGING SERVICE FORMAT FOR APPLICATIONS

Field of invention

5 This invention relates to a method for utilising a MMS format for user interfaces for applications such as running animations or audio-recordings, or such as showing screen images guiding an operator through a specific menu sequence. This invention further relates to a communication terminal for executing applications utilising a MMS format for providing a user with a multimedia assistance during for example the user's manoeuvring through a menu.

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Background of invention

15 Lately, communication terminals have evolved to perform, in addition to voice communication, generation and transmission of text messages such as Short Messaging Services (SMS) messages as well as Multimedia Messaging Service (MMS) messages comprising a video, picture or audio sequence. In addition, operators transmit their logo for displaying on the communication terminal in accordance with position of the communication terminal. Furthermore, the communication terminals have evolved to include personal digital assistant (PDA) features such as calendar, address book, and even email functions.

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European patent application EP 1 197 901, which hereby is incorporated by reference in the present specification, discloses a hand-portable communication terminal comprising a control

unit for running a reminder application and a display for presenting the reminders in a text window. The reminder application enables a user to transmit text reminders to a remote second communication terminal via a wireless network. Preferably 5 these text reminders are transferred via the wireless network included in a message according to the SMS format. The user interfaces for applications run on a communication terminal, however, are generally based on a text format. Although the text format is a simple format, which does not require much processor time, the users of communication terminals demand improved 10 interfaces and multimedia capabilities on their communication terminals.

#### Summary of the invention

15 An object of the present invention is to provide a communication terminal capable of executing applications utilising the MMS format for internally storing various multimedia data. The communication terminal may be mobile or cellular phones, personal 20 digital assistants or personal computers, used in a wireless communication network.

A particular advantage of the present invention is provision of user interfaces which guide a user of a communication terminal 25 through a specific sequence of operations.

A particular feature of the present invention relates to the provision of a reminder system enabling a user of a communication terminal to record a reminder on a communication terminal 30 in the MMS format, which reminder thereby may contain a recording of an audio or visual sequence captured by the communication terminal or received at the communication terminal and stored by the user.

The above objects, advantage and feature together with numerous other objects, advantages and features, which will become evident from below detailed description, are obtained according to 5 a first aspect of the present invention by a communication terminal comprising:

- a) a control module for executing an application comprising an executable program;
- b) a multimedia generating module for generating a recording;
- 10 c) storage module for storing said application and for storing said recording in a multimedia format; and
- d) a multimedia playing module for playing said recording; and wherein

said control module is adapted to associate said recording with 15 said application and to control said multimedia playing module to play said recording in conjunction with said control module executing said application.

The term "a" or "an" should in this context be construed as one 20 or more, or a single or plurality of elements.

The communication terminal according to the first aspect of the present invention may comprise a mobile or cellular phone, a personal office assistant or a personal computer. The communication terminal may be connected to a network such as wireless 25 telecommunication network as well as a wired or wireless computer network such as a local area network (LAN), wide area network (WAN), metropolitan area network (MAN) or an internet-network (e.g. the Internet). Further, the communication terminal 30 may be connected to an over the air (OTA), a cable or satellite television network, or to a power network. In practise, any type of communication network or potential communication net-

work may be used for carrying messages between communication terminals.

The multimedia playing module according to the first aspect of  
5 the present invention may be adapted to play the recording ei-  
ther through a display, a loudspeaker, or a combination  
thereof.

The recording according to the first aspect of the present in-  
10 vention may comprise a text, a series of texts, a picture, a  
series of pictures, a video sequence, a series of video se-  
quences, an audio track, a series of audio tracks, or any com-  
bination thereof. The multimedia format may be a multimedia  
messaging service (MMS) format. By encapsulating the recording  
15 in a MMS format a wide spread of new possibilities in user in-  
terfaces is provided.

The application according to the first aspect of the present  
invention may comprise an executable program such as a power  
20 up/down sequence, incoming and outgoing call sequence, call  
termination sequence, network operator service initiation.

Hence, combining the application and the recording in a MMS  
format provides an excellent possibility for generating a user  
25 interface for, e.g., a powering up sequence of a cellular  
phone, since the MMS format enables the network operator to  
provide information to the cellular phone in a multimedia for-  
mat. Alternatively, the powering up sequence may comprise a  
multimedia section describing various types of information in  
30 regards to for example power left in the cellular phone or re-  
ception conditions of the antenna.

The communication terminal according to the first aspect of the present invention may further comprise a calendar module for enabling a user of the communication terminal to generate a reminder as a recording in the multimedia format. The reminder 5 may thus comprise a multimedia message for alerting the user about certain activities. The introduction of an audio or video recording provides a significant improvement to the known types of reminders used in communication terminals, i.e. text type reminders.

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The communication terminal according to the first aspect of the present invention may further comprise a media recording module for generating the recording in the multimedia format and for forwarding the recording to the multimedia generating module.

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The media recording module may comprise an input device such as a camera, a microphone, a keyboard, a scanner, a card reader, a biometric reader such as a fingerprint, iris or voice recognition device, an action sensitive display, or any combination thereof. The recording in the multimedia format for a particu-

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lar application may be performed directly on the communication terminal. That is, the input device may be adapted to record an audio using a microphone on the communication terminal, an image or series of images using a camera on the communication terminal, or simply a text utilising a keyboard on the communica-

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tion terminal. The elements, such as for example a camera, are generally available on cellular or mobile phones developed during the recent years and thus the present invention provides a supplement use of these elements to record reminders to be stored in a calendar.

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The communication terminal according to the first aspect of the present invention may further comprise a memory communication device for connecting to an external memory module through an

interface device, which external memory module is adapted to store the application and the recording in a multimedia format. External memory should in this context be construed as non-integrated memory, that is the external memory may comprise a

5 memory card such as a secure digital card, a compact flash card, a smart media card, and a multimedia card, read only memory card such as a SIM card or credit card, a smart card or a PC card, or a movable hard or floppy disk drive, or any combination thereof. Since the memory cards have constantly powered

10 non-volatile memory, the data are stable on the cards. Further, since memory cards are solid state media no moving parts are included, and therefore they do not suffer from mechanical difficulties.

15 The interface device according to the first aspect of the present invention may comprise a wired or wireless connection link. The connection link may be established by a wireless connection such as an infrared connection or a radio frequency modulated connection or a wired one such as provided by a cable. The interface device may be adapted to communicate in accordance with a communication protocol such as bluetooth protocol, a transmission control protocol, Internet protocol, user datagram protocol, or any combination thereof.

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25 Alternatively to generating a personal recording the communication terminal according to the first aspect of the present invention may be connected to a server through a network, such as for example described above. The multimedia generating module may be adapted to receive the recording and/or associated application from the server, which recording and/or application is to be stored in the storage module and played by the multimedia playing module and executed by the control module, re-

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spectively. The applications may be updated versions of programs replacing existing outdated versions of programs. By connecting to a server the communication terminal may continuously be updated in regards to providing a communication tool i.e.

5 the communication terminal, which operates according to the most recent and fastest applications.

The above objects, advantage and feature together with numerous other objects, advantages and features, which will become evident from below detailed description, are obtained according to 10 a second aspect of the present invention by a method for utilising a recording in a multimedia format for an application executed on a communication terminal, and comprising:

- (a) generating said recording in a multimedia format by 15 means of a multimedia generating module;
- (b) associating said recording with said application by means of said multimedia generating module;
- (c) storing said recording and said application by means of a local storage module on said communication terminal; 20 and
- (d) executing said application and playing said recording by means of a control module and a media playing module.

25 The generation of a recording according to the second aspect of the present invention may comprise receiving multimedia data from a server over a network and converting the multimedia data to the recording by means of the multimedia generating module. Alternatively or additionally, the generation of a recording 30 may comprise receiving multimedia data from a multimedia recording module of the communication terminal and converting the multimedia data to the recording by means of the multimedia generating module. The method significantly improves applica-

tions to be run or communicated to a communication terminal since the user interface associated with an application may be supplied with multimedia support such as images, video or audio.

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The term "executed" should in this context be construed as run or played on the communication terminal. The application per se may in fact be executed on a server, while the communication terminal provides the user interfaces on the associated display.

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The multimedia format application according to the second aspect of the present invention may comprise a multimedia messaging service (MMS) format. The MMS format provides a standardized format for handling multimedia messages to be communicated between communication terminals interconnected through a wireless telecommunication network.

The generation of the recording in a multimedia format according to the second aspect of the present invention may comprise capturing multimedia data by means of an input device and sequencing the multimedia data. The multimedia data may be captured using any form of digital or digitized analog recording apparatus. The multimedia data may be transferred to a communication terminal or server utilising any type of wired or wireless connection. The multimedia data may in fact as described with reference to the first aspect of the present invention be recorded by a communication terminal, this in effect, provides great versatility since each user of a communication terminal may generate personal applications such as for example reminders.

The method according to the second aspect of the present invention may incorporate any feature of the communication terminal according to the first aspect of the present invention.

- 5 The above objects, advantage and feature together with numerous other objects, advantages and features, which will become evident from below detailed description, is obtained according to a second aspect of the present invention by a system for utilising a recording in a multimedia format for an application
- 10 executed on a communication terminal, and comprising:
  - (a) a communication terminal comprising:
    - (i) a control module for executing an application comprising an executable program;
    - (ii) a multimedia generating module for generating a recording;
    - 15 (iii) storage module for storing said application and for storing said recording in a multimedia format; and
    - (iv) a multimedia playing module for playing said recording; and wherein
  - 20 said control module is adapted to associate said recording with said application and to control said multimedia playing module to play said recording in conjunction with said control module executing said application; and
  - 25 (b) a server for generating and forwarding said application and/or said recording to said communication terminal over communication network.
- 30 The system according to the third aspect of the present invention may incorporate any features of the communication terminal according to the first aspect of the present invention and any

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features of the method according to second aspect of the present invention.

**Brief description of the drawings**

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The above, as well as additional objects, features and advantages of the present invention, will be better understood through the following illustrative and non-limiting detailed description of preferred embodiments of the present invention, 10 with reference to the appended drawing, wherein:

figure 1 shows a communication terminal according to a preferred embodiment of the present invention;

15 figure 2 shows a communication system according to a preferred embodiment of the present invention; and

figure 3 shows a flow chart of a method according to a preferred embodiment of the present invention.

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**Detailed description of preferred embodiments**

In the following description of the various embodiments reference is made to the accompanying drawings which form a part 25 hereof, and in which, by way of illustration, various embodiments are shown, in which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural and functional modifications may be made without departing from the scope of the present invention.

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A communication terminal according to a presently preferred embodiment of the present invention is shown in figure 1 as designated in its entirety by reference numeral 100. The commun-

cation terminal 100 comprises a messaging module 102 for transmitting and receiving any types of data packages through a wireless communication network; a calendar module 104 for enabling a user of the communication terminal 100 to perform general calendar operations, such as storing or retrieving any form of time related data e.g. alerts, meetings or special days; a media playback module 106 for outputting a recording either by display or loudspeaker or a combination thereof; a storage module 108 for storing recordings in a multimedia format; and a control module 110 for executing an application in conjunction with the media playback module 106 outputs an associated recording.

The calendar module 104 cooperates with a media generating module 112 through the control module 110 for generating and associating a recording in a multimedia format such as the MMS format with an application to be executed by the control module 110. The media generating module 112 receives a recording from a keyboard, a microphone, a camera, a scanner, a card reader, an iris reader, a fingerprint reader, an action sensitive display, or any combination thereof, which is designated in entirety by reference numeral 116. Alternatively, the media generating module 112, as will be described below with reference to figure 2, receives the recording from a server providing multimedia data to be associated with a specific application. The multimedia data may be a text, a series of texts, a picture, a series of pictures, a video sequence, a series of video sequences, an audio track, a series of audio tracks, or any combination thereof.

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Figure 2, shows a communication system designated in entirety by reference numeral 200 and comprising the communication ter-

terminal 100, as described with reference to figure 1, communicating through a communication network 202 with a server 206.

The communication terminal 100 comprises an antenna 114 for 5 connecting to a communication network 202 such as wireless telecommunication network as well as a wired or wireless computer network such as a local area network (LAN), wide area network (WAN), metropolitan area network (MAN) or an internet-network (e.g. the Internet). Further, the antenna 114 may be connected to an over the air (OTA), a cable or satellite television network, or to a power network. 10

The server 206 is connected to the communication terminal 100 through the communication network 202 via a first wireless link 15 204 and a second wired or wireless link 208. The server 206 provides applications and associated recordings in multimedia format, which are to be stored in the storage module 108 of the communication terminal 100 and to be executed by the control module 110 and by the multimedia playing module 106. The applications and associated recordings may be updated versions of 20 programs replacing existing outdated versions of programs. By connecting to the server 206 the communication terminal 100 is continuously updated. The communication tool 100 is thereby continuously enabled to operate according to the most recent 25 and fastest applications.

For example if the communication terminal 100 needs an updated application, maybe because the present power up sequence installed on the communication terminal 100 is determined by a 30 clock function limiting use of the communication terminal 100, then the server 206 provides an updated application to the communication terminal 100 through the communication network 202.

Furthermore, the server 206 upon request from the communication terminal 100 may forward a wide variety of applications to be stored on the storage module 108. The applications and associated multimedia data may be games or new features for existing 5 applications on the communication terminal 100.

Figure 3 shows a flow chart of a method according to the presently preferred embodiment of the present invention designated in entirety by reference numeral 300. The method 300 comprises 10 a start 302 level during which the fundamental requirements such as file format and implementation procedure is established.

Furthermore, the method 300 comprises a generation procedure 15 304 for generating a recording in a multimedia format and an association procedure 306 for associating the recording with an application to be run in a communication terminal. The generation procedure 304 comprises receiving multimedia data such as a text, a series of texts, a picture, a series of pictures, a 20 video sequence, a series of video sequences, an audio track, a series of audio tracks, or any combination thereof. The association procedure 306 comprises determination of association of the multimedia data with an application. That is the association procedure 306 links the multimedia data to the application. 25

The method 300 further, during a storing procedure 308, stores the recording in the multimedia format and the application in a memory. The memory may be a local memory integrated on a communication terminal such as a cellular phone, or an external memory, for example, on a server. The local memory may be an erasable as well as static type memory or both types. In case the recording is stored on the external memory, the recording will 30

be forwarded to the communication terminal, when the communication terminal requests this.

The method 300 further comprises a executing procedure 310 for  
5 playing the recording in the multimedia format in association  
with the executing of the application. Hence the communication  
terminal may present a multimedia interface for a user, while  
the user for example is powering up his cellular phone. In ad-  
dition, the communication terminal enables the user to record a  
10 message and store the message in a multimedia format locally on  
the communication terminal, which message may be associate with  
a reminder application. That is, the reminder application util-  
ises the multimedia format such as MMS to store a reminder,  
which may comprise a message containing multimedia data.

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Finally, the method 300 comprises a termination procedure 312  
during which the method 300 makes itself available for genera-  
tion of further multimedia format applications.